

REMARKS

By this amendment, Applicants have amended claims 1, 5, 6, and 9. As a result, claims 1-20 remain pending in this application. These amendments are being made to facilitate early allowance of the presently claimed subject matter. Applicants do not acquiesce in the correctness of the objections and rejections and reserve the right to pursue the full scope of the subject matter of the original claims in a subsequent patent application that claims priority to the instant application. Reconsideration in view of the following remarks is respectfully requested.

In the Office Action, the Office makes the election/restriction requirement final. Applicants request reconsideration and clarification of the Office's election/restriction requirement. In particular, Applicants respectfully submit that claim 5 and claim 14 do not "each contain mutually exclusive characteristics warranting a separate search". As a result, Applicants respectfully request consideration of claims 10-15 in view of the Office's search with respect to claim 5. In the alternative, Applicants request that the Office particularly point out that portion of claim 14 that warrants a separate burdensome search from that conducted for claim 5. Further, Applicants respectfully submit that claim 6 and claim 19 do not "each contain mutually exclusive characteristics warranting a separate search". As a result, Applicants respectfully request consideration of claims 16-20 in view of the Office's search with respect to claim 6. In the alternative, Applicants request that the Office particularly point out that portion of claim 19 that warrants a separate burdensome search from that conducted for claim 6.

Further, the Office rejects claims 1-9 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,851,905 (McIntosh). Interpreting McIntosh only for the purposes of this response, since McIntosh fails to disclose each and every feature of the claimed

invention as required by 35 U.S.C. § 102(b), Applicants respectfully request withdrawal of this rejection.

In particular, with respect to claim 1, McIntosh fails to disclose, *inter alia*, the claimed applying a first precursor flux for a first element using a first series of pulses, wherein a pulse in the first series of pulses lasts for an approximate first duration and wherein the first element comprises nitrogen. Applicants have amended claim 1 to include similar limitations as originally presented in claim 9. In rejecting claim 9, the Office cites col. 10, lines 45-65 as allegedly disclosing the use of a series of pulses when applying nitrogen. To the contrary, McIntosh expressly teaches that nitrogen is applied using a continuous flow. For example, starting at col. 10, line 37 of McIntosh, three growth methods are described. The first growth method is conventional MOCVD. Col. 10, lines 38-40. The second growth method comprises "pulsed flow MOCVD (PFMOCVD)... with NH₃ flowing continuously." Col. 10, lines 40-54. The "third growth method, which is a variation on PFMOCVD involves introducing pulses... but during which the NH₃ continues to flow." Col. 10, lines 55-65.

To this extent, contrary to the Office's assertion, McIntosh expressly teaches away from applying a first precursor flux for a first element using a first series of pulses, wherein a pulse in the first series of pulses lasts for an approximate first duration and wherein the first element comprises nitrogen as in the claimed invention. As a result, Applicants respectfully request withdrawal of the rejection of claim 1 and claims 2-9, which depend therefrom, as allegedly being anticipated by McIntosh.

With further respect to claim 5, the Office cites FIG. 12 of McIntosh as allegedly disclosing the claimed feature of applying at least a portion of a pulse in the first series of pulses

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at the same time that at least a portion of the second pulse is applied. However, FIGS. 12 and 13 illustrate cross-sectional views of MOCVD systems. See, e.g., Col. 4, lines 27-29. To this extent, FIG. 12 is unrelated to the claimed applications using pulses, at least a portion of which are simultaneously applied. As a result, Applicants again respectfully request withdrawal of the rejection of claim 5 as allegedly being disclosed by McIntosh.

With further respect to claim 6, the Office cites FIG. 14 of McIntosh as allegedly disclosing the claimed feature of a pulse having a non-rectangular waveform. However, FIG. 14 merely illustrates a relationship between hydrogen flow rate and indium incorporation for a particular MOCVD system. See, e.g., Col. 4, lines 30-32. To this extent, FIG. 14 fails to teach using a pulse at all, let alone using a pulse having a non-rectangular waveform as in the claimed invention. As a result, Applicants again respectfully request withdrawal of the rejection of claim 6 as allegedly being disclosed by McIntosh.

With further respect to claim 7, the Office cites Col. 8, lines 30-40 of McIntosh as allegedly disclosing the claimed step of illuminating the nitride-based film with ultraviolet radiation while growing a nitride-based film. However, this portion of McIntosh merely compares the efficiency of quantum well light emitting diodes with standard technologies. To this extent, this discussion is entirely unrelated to growing a nitride-based film, let alone illuminating the nitride-based film with ultraviolet radiation. As a result, Applicants again respectfully request withdrawal of the rejection of claim 7 as allegedly being disclosed by McIntosh.

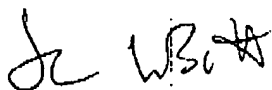
Applicants submit that each of the pending claims is patentable for one or more additional unique features. To this extent, Applicants do not acquiesce to the Office's interpretation of the

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claimed subject matter or the references used in rejecting the claimed subject matter. These features have not been separately addressed herein for brevity. However, Applicants reserve the right to present such arguments in a later response should one be necessary.

In light of the above, Applicants respectfully submit that all claims are in condition for allowance. Should the Examiner require anything further to place the application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the number listed below.

Respectfully submitted,



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